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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/652,316  | 08/31/2000  | Shen Wang            | 81229RLO            | 3130             |
| 1333  | 7590        | 11/16/2004           | EXAMINER            |                  |
| PATENT LEGAL STAFF<br>EASTMAN KODAK COMPANY<br>343 STATE STREET<br>ROCHESTER, NY 14650-2201 |             |                      | JELINEK, BRIAN J    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2615                |                  |

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/652,316

**Applicant(s)**

WANG ET AL.

**Examiner**

Brian Jelinek

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/16/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Response to Amendment***

The Examiner respectfully submits a response to the amendment received on 8/16/2004 of application no. 09/652,316 filed on 8/31/2000 in which claims 6-10 are currently pending.

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***Drawings***

The proposed drawing changes to figures 1a, and 1b are approved.

The objection to figures 1c, and 1d is maintained. Figures 1c, and 1d should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply  
10 to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

The objection to the specification is maintained. The specification is objected to because  
15 of the following informalities: the output device (spec. page 3, lines 15) is numbered 46, but should be numbered 48. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the  
20 basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

- 5 **Claims 6, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Pourjavid (U.S. Pat. No. 6,529,622).**

Regarding claim 6, Pourjavid teaches a method for detecting pixels that produce inconsistent outputs that may vary over time (col. 4, lines 21-23 and 38-39) in an image sensor, the method comprising the steps of: (a) capturing at least two images (col. 4, lines 3-11; col. 6,  
10 lines 1-14); (b) determining one or more substantially maximum and minimum values at the same pixel location in the two or more images (col. 4, lines 42-45), corresponding to an upper and lower allowable standard deviation, because the desired tolerance for the particular detector is true for every pixel; (c) calculating one or more differences between the substantially maximum and minimum values for obtaining one or more delta values (col. 4, lines 39-40)  
15 because in calculating the standard deviation (delta value) of a pixel, it is necessary to calculate the difference between each pixel sample and the mean, some of which must be between the mean and upper allowable threshold or between the mean and lower allowable threshold; (d) comparing the one or more delta values with a threshold (col. 4, lines 45-53; col. 4, lines 39-42); and (e) recording the pixels whose delta values are beyond the threshold as hopping pixels (Fig.  
20 3, element 50).

Pourjavid does not specifically teach a temperature dependent hopping pixel. However, it is inherent because the outputs of all pixels are dependent on temperature and the defective pixel taught by Pourjavid clearly varies beyond the random noise since it is above a threshold of several standard deviations (col. 4, lines 42-45).

Regarding claim 8, Pourjavid teaches repeating steps (a) through (e) (col. 4, lines 3-11; col. 6, lines 1-14).

***Claim Rejections - 35 USC § 103***

5           The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

10           (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pourjavid (U.S. Pat. No. 6,529,622) in view of Takayama et al. (U.S. Pat. No. 6,683,643).**

Regarding claim 7, Pourjavid does not teach heating the image sensor to increase the efficiency of capturing a pixel defect.

20           However, Takayama teaches heating the image sensor and provides predetermined heated temperature conditions to which the image sensor is subjected before capturing the two or more images to increase efficiency of capturing the defective pixel (col. 5, lines 33-42). One of ordinary skill in the art would have heated the image sensor to increase the defect level in order to detect a defective pixel (col. 5, lines 33-42). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to heat the image sensor to increase the defect level in order to detect a defective pixel.

25           Regarding claim 9, Pourjavid teaches repeating steps (a) through (e) (col. 4, lines 3-11; col. 6, lines 1-14), but does not teach heating the image sensor as in step (f).

However, Takayama et al. teaches heating the image sensor (please see the 103 rejection of claim 7) and testing repeatedly over prescribed intervals in order to detect a defective pixel (col. 5, lines 44-50). One of ordinary skill in the art would have repeated testing of the image sensor over prescribed intervals in order to detect new defective pixels. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have repeated testing of the image sensor over prescribed intervals in order to detect new defective pixels.

**Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pourjavid (U.S. Pat. No. 6,529,622) in view of Aufrichtig et al. (U.S. Pat. No. 6,661,456).**

Regarding claim 10, Pourjavid teaches creating a mask image map that identifies defective pixels in order that the output from these defective pixels may be disregarded (col. 9, lines 18-38). Pourjavid does not teach displaying the defective pixel on a display.

However, Aufrichtig et al. teaches the visual display of defective pixels (col. 1, line 65 – col. 2, line 2). It is clear that visually displaying the defective pixels detected in Pourjavid would be valuable because it would provide useful insight into the picture quality of the image sensor under test. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to visually display the defects of Pourjavid, as taught by Aufrichtig et al., in order to provide useful insight into the quality of the image sensor.

### ***Conclusion***

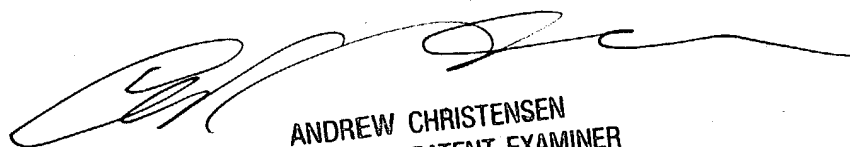
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is (703) 305-4724. The examiner can normally be reached on M-F 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Jelinek  
11/12/2004



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